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SEP 24 2002

TECH CENTER 1600/2900

SEQUENCE LISTING

<111> Scholler, Nathalie B.
<111> Lisis, Mary L.
<111> Hellstrom, Ingegerd
<111> Hellstrom, Karl Erik

<121> SURFACE RECEPTOR ANTIGEN VACCINES

<131> 130033.409

<141> US 09/441,411
<141> 1499-11-16

<161> 26

<171> FastSEQ for Windows Version 4.0

<210> 1
<210> 19
<210> LNA
<210> Artificial Sequence

<210> 20
<210> PCR primer

<446> 1
gtatgcgttat ggcttgcaat tgtcagttg

29

<210> 21
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<210> LNA
<210> Artificial Sequence

<210> 22
<210> PCR primer

<446> 2
gtatgcgtat aaaggaagac ggtctgttc

29

<210> 3
<210> 27
<210> LNA
<210> Artificial Sequence

<210> 4
<210> PCR primer

<446> 3
cgaaaccttgt tccagaacctt acggaag

27

<210> 4

• 111 - 26
• 112 - DNA
• 113 - Artificial Sequence

1.23 · PCR primer

0400-4
gtatcgatct ttcctcaggc ttcac

25

• 0110 - 5
• 0111 - 4473
• 0112 - DNA
• 0113 - *Homo sapiens*

4210 6
4211 1255
4212 PRT
4213 Homo

```

4000 6
Met Glu Leu Ala Ala Leu Cys Arg Trp Gly Leu Leu Leu Ala Leu Leu
1 5 10 15
Pro Pro Gly Ala Ala Ser Thr Gln Val Cys Thr Gly Thr Asp Met Lys
20 25 30
Leu Arg Leu Pro Ala Ser Pro Glu Thr His Leu Asp Met Leu Arg His
35 40 45
Leu Tyr Gln GLY Cys Gln Val Val Gln Gly Asn Leu Glu Leu Thr Tyr
50 55 60
Leu Pro Thr Asn Ala Ser Leu Ser Phe Leu Gln Asp Ile Gln Glu Val
65 70 75 80

```

Gln Gly Tyr Val Leu Ile Ala His Asn Gln Val Arg Gln Val Pro Leu
 85 90 95
 Gln Arg Leu Arg Ile Val Arg Gly Thr Gln Leu Phe Glu Asp Asn Tyr
 100 105 110
 Ala Leu Ala Val Leu Asp Asn Gly Asp Pro Leu Asn Asn Thr Thr Pro
 115 120 125
 Val Thr Gly Ala Ser Pro Gly Gly Leu Arg Glu Leu Gln Leu Arg Ser
 130 135 140
 Leu Thr Glu Ile Leu Lys Gly Gly Val Leu Ile Gln Arg Asn Pro Gln
 145 150 155 160
 Leu Cys Tyr Gln Asp Thr Ile Leu Trp Lys Asp Ile Phe His Lys Asn
 165 170 175
 Asn Gln Leu Ala Leu Thr Leu Ile Asp Thr Asn Arg Ser Arg Ala Cys
 180 185 190
 His Pro Cys Ser Pro Met Cys Lys Gly Ser Arg Cys Trp Gly Glu Ser
 195 200 205
 Ser Glu Asp Cys Gln Ser Leu Thr Arg Thr Val Cys Ala Gly Gly Cys
 210 215 220
 Ala Arg Cys Lys Gly Pro Leu Pro Thr Asp Cys Cys His Glu Gln Cys
 225 230 235 240
 Ala Ala Gly Cys Thr Gly Pro Lys His Ser Asp Cys Leu Ala Cys Leu
 245 250 255 260
 His Phe Asn His Ser Gly Ile Cys Glu Leu His Cys Pro Ala Leu Val
 265 265 270 275
 Thr Tyr Asn Thr Asp Thr Phe Glu Ser Met Pro Asn Pro Glu Gly Arg
 275 280 285
 Tyr Thr Phe Gly Ala Ser Cys Val Thr Ala Cys Pro Tyr Asn Tyr Leu
 295 295 300 305
 Ser Thr Asp Val Gly Ser Cys Thr Leu Val Cys Pro Leu His Asn Gln
 310 310 315 320
 Glu Val Thr Ala Glu Asp Gly Thr Gln Arg Cys Glu Lys Cys Ser Lys
 325 330 335 340
 Pro Cys Ala Arg Val Cys Tyr Gly Leu Gly Met Glu His Leu Arg Gln
 345 345 350 355
 Val Arg Ala Val Thr Ser Ala Asn Ile Gln Glu Phe Ala Gly Cys Lys
 365 365 370 375
 Lys Ile Phe Gly Ser Leu Ala Phe Leu Pro Glu Ser Phe Asp Gly Asp
 380 380 385 390
 Pro Ala Ser Asn Thr Ala Pro Leu Gln Pro Glu Gln Leu Gln Val Phe
 395 395 400 405
 Glu Thr Leu Gln Glu Ile Thr Gly Tyr Leu Tyr Ile Ser Ala Trp Pro
 410 410 415 420
 Asp Ser Leu Pro Asp Leu Ser Val Phe Gln Asn Leu Gln Val Ile Arg
 425 425 430 435
 Gly Arg Ile Leu His Asn Gly Ala Tyr Ser Leu Thr Leu Gln Gly Leu
 440 440 445 450
 Gly Ile Ser Trp Leu Gly Leu Arg Ser Leu Arg Gln Leu Gly Ser Gly
 455 455 460 465
 Leu Ala Leu Ile His His Asn Thr His Leu Cys Phe Val His Thr Val
 470 475 480 485
 Pro Trp Asp Gln Leu Phe Arg Asn Pro His Gln Ala Leu Leu His Thr
 490 490 495 500
 Ala Asn Arg Pro Glu Asp Glu Cys Val Gly Glu Gly Leu Ala Cys His
 505 505 510

Gln Leu Cys Ala Arg Gly His Cys Trp Gly Pro Gly Pro Thr Gln Cys
 515 520 525
 Val Asn Cys Ser Gln Phe Leu Arg Gly Gln Glu Cys Val Glu Glu Cys
 530 535 540
 Arg Val Leu Gln Gly Leu Pro Arg Glu Tyr Val Asn Ala Arg His Cys
 545 550 555 560
 Leu Pro Cys His Pro Glu Cys Gln Pro Asn Gly Ser Val Thr Cys
 565 570 575
 Phe Gly Pro Glu Ala Asp Gln Lys Val Ala Cys Ala His Tyr Lys Asp
 580 585 590
 Pro Pro Phe Cys Val Ala Arg Lys Pro Ser Gly Val Lys Pro Asp Leu
 595 600 605
 Ser Tyr Met Pro Ile Trp Lys Phe Pro Asp Glu Gln Gly Ala Cys Gln
 610 615 620
 Pro Cys Pro Ile Asn Cys Thr His Ser Cys Val Asp Leu Asp Asp Lys
 625 630 635 640
 Gly Cys Pro Ala Glu Gln Arg Ala Ser Pro Leu Thr Ser Ile Ile Ser
 645 650 655
 Ala Val Val Gly Ile Leu Leu Val Val Val Leu Gly Val Val Phe Gly
 660 665 670
 Ile Leu Ile Lys Arg Arg Gln Lys Ile Arg Lys Tyr Thr Met Arg
 675 680 685
 Arg Leu Leu Gln Glu Thr Gln Leu Val Glu Pro Leu Thr Pro Ser Gly
 690 695 700
 Ala Met Pro Asn Gln Ala Gln Met Arg Ile Leu Lys Glu Thr Gln Leu
 705 710 715
 Arg Lys Val Lys Val Leu Gly Ser Gly Ala Phe Gly Thr Val Tyr Lys
 720 725 730 735
 Gly Ile Trp Ile Pro Asp Gly Gln Asn Val Lys Ile Pro Val Ala Ile
 740 745 750
 Lys Val Leu Arg Gln Asn Thr Ser Pro Lys Ala Asn Lys Glu Ile Leu
 755 760 765
 Asp Gln Ala Tyr Val Met Ala Gly Val Gly Ser Pro Tyr Val Ser Arg
 770 775 780
 Leu Leu Gly Ile Cys Leu Thr Ser Thr Val Gln Leu Val Thr Gln Leu
 785 790 795 800
 Met Pro Tyr Ile Cys Leu Leu Asp His Val Arg Gln Asn Arg Gly Arg
 805 810 815
 Leu Gly Ser Gln Asp Leu Leu Asn Trp Cys Met Gln Ile Ala Lys Gly
 820 825 830
 Met Ser Tyr Leu Gln Asp Val Arg Leu Val His Asp Leu Ala Ala
 835 840 845
 Arg Asn Val Leu Val Lys Ser Pro Asn His Val Lys Ile Thr Asp Phe
 850 855 860
 Gly Leu Ala Arg Leu Leu Asp Ile Asp Glu Thr Gln Tyr His Ala Asp
 865 870 875 880
 Gly Gly Lys Val Pro Ile Lys Trp Met Ala Leu Gln Ser Ile Leu Arg
 885 890 895 900
 Arg Arg Phe Thr His Gln Ser Asp Val Trp Ser Tyr Gly Val Thr Val
 905 910 915
 Trp Gln Leu Met Thr Phe Gly Ala Lys Pro Tyr Asp Gly Ile Pro Ala
 920 925 930
 Arg Gln Ile Pro Asp Leu Leu Glu Lys Gly Glu Arg Leu Pro Gln Pro
 935 940

Pro Ile Cys Thr Ile Asp Val Tyr Met Ile Met Val Lys Cys Trp Met
 945 950 955 960
 Ile Asp Ser Glu Cys Arg Pro Arg Phe Arg Glu Leu Val Ser Glu Phe
 965 970 975
 Ser Arg Met Ala Arg Asp Pro Gln Arg Phe Val Val Ile Gln Asn Glu
 980 985 990
 Asp Leu Gly Pro Ala Ser Pro Leu Asp Ser Thr Phe Tyr Arg Ser Leu
 995 1000 1005
 Leu Glu Asp Asp Asp Met Gly Asp Leu Val Asp Ala Glu Glu Tyr Leu
 1010 1015 1020
 Val Pro Gln Gln Gly Phe Phe Cys Pro Asp Pro Ala Pro Gly Ala Gly
 1025 1030 1035 1040
 Gly Met Val His His Arg His Arg Ser Ser Thr Arg Ser Gly Gly
 1045 1050 1055
 Gly Asp Leu Thr Leu Gly Leu Glu Pro Ser Glu Glu Ala Pro Arg
 1060 1065 1070
 Ser Pro Leu Ala Pro Ser Glu Gly Ala Gly Ser Asp Val Phe Asp Gly
 1075 1080 1085
 Asp Leu Gly Met Gly Ala Ala Lys Gly Leu Glu Ser Leu Pro Thr His
 1090 1095 1100
 Asp Pro Ser Pro Leu Gln Arg Tyr Ser Glu Asp Pro Thr Val Pro Leu
 1105 1110 1115 1120
 Pro Ser Glu Thr Asp Gly Tyr Val Ala Pro Leu Thr Cys Ser Pro Gln
 1115 1130 1135
 Pro Glu Tyr Val Asn Gln Pro Asp Val Arg Pro Glu Pro Pro Ser Pro
 1140 1145 1150
 Arg Glu Gly Pro Leu Pro Ala Ala Arg Pro Ala Gly Ala Thr Leu Glu
 1155 1160 1165
 Arg Pro Lys Thr Leu Ser Pro Gly Lys Asn Gly Val Val Lys Asp Val
 1170 1175 1180
 Phe Ala Phe Gly Gly Ala Val Glu Asn Pro Glu Tyr Leu Thr Pro Gln
 1185 1190 1195 1200
 Gly Gly Ala Ala Pro Gln Pro His Pro Pro Ala Phe Ser Pro Ala
 1205 1210 1215
 Phe Asp Asn Leu Tyr Tyr Trp Asp Gln Asp Pro Pro Glu Arg Gly Ala
 1220 1225 1230
 Pro Pro Ser Thr Phe Lys Gly Thr Pro Thr Ala Glu Asn Pro Glu Tyr
 1235 1240 1245
 Leu Gly Leu Asp Val Pro Val
 1250 1255

1210 - 7

1211 - 729

1212 - DNA

1213 - *Drosophila melanogaster*

1400 - 7

gcatttccag agggctacct cacgttgcact tctttcgact atctttcgga caaattttac 60
 acccggttgt ttgtgggcac catttttttt ttcaagttcg tttgtcccaas gctgtatgtac 120
 ctttactact actcgcaat cgtggccat gtttttttttt aaaaaaggc cttttttttt 180
 caggccaaagaa aatgaacgt ggatgtcgctg cttttttttt tggacaagag caaggagatgg 240
 gcgaggatata gatttgcgaa gggggccatc accatctgtt tttttttttt cgtgtcgatgg 300
 acggccatcg cgttaatgtc gttttttttt gttttttttt ataagatgtt gttttttttt 360
 ggagccacga tttttttttt tttttttttt aatgtttttt cgtttttttt cttttttttt 420

tatgcataa gtcacccag ataccgttg gagctgcaga agcgctgtcc ctggctggga	480
gtcaacgaaa agtctggga gatcttccg ggcgcgtcca cggccaccca ggagcagcaa	540
cgacttccg ctgcataagaa ccaaggacaa ctctactcta agacaaactga ccatgtaaaca	600
tgaagccaa ggaaaaagta taaaatggcg acaacgaaac ttataaacat taatttata	660
atttgtatgtg tgatattttt gagtttggaa taaataata gtaacttatt gcaacgaag	720
tagaaaaatg	729
· · · · ·	
· · · · 6	
· · · · 373	
· · · · PRT	
· · · · Drosophila melanogaster	
· · · · ·	
· · · · 3	
Met Glu Pro Leu Cys Asn Ala Ser Glu Pro Pro Leu Arg Pro Glu Ala	
1 5 10 15	
Arg Ser Ser Gly Asn Gly Asp Leu Gln Phe Leu Gly Trp Asn Val Pro	
20 25 30	
Pro Asp Gln Ile Gln Tyr Ile Pro Glu His Trp Leu Thr Gln Leu Glu	
35 40 45	
Pro Pro Ala Ser Met His Tyr Met Leu Gly Val Phe Tyr Ile Phe Leu	
50 55 60	
Phe Cys Ala Ser Thr Val Gly Asn Gly Met Val Ile Trp Ile Phe Ser	
65 70 75 80	
Thr Ser Lys Ser Leu Arg Thr Pro Ser Asn Met Phe Val Leu Asn Leu	
85 90 95	
Ala Val Phe Asp Leu Ile Met Cys Leu Lys Ala Pro Ile Phe Asn Ser	
100 105 110	
Phe His Arg Gly Phe Ala Ile Tyr Leu Gly Asn Thr Trp Cys Gln Ile	
115 120 125	
Phe Ala Ser Ile Gly Ser Tyr Ser Gly Ile Gly Ala Gly Met Thr Asn	
130 135 140	
Ala Ala Ile Gly Tyr Asp Arg Tyr Asn Val Ile Thr Lys Pro Met Asn	
145 150 155 160	
Arg Asn Met Thr Phe Thr Lys Ala Val Ile Met Asn Ile Ile Trp	
165 170 175	
Leu Tyr Cys Thr Pro Trp Val Val Leu Pro Leu Thr Ser Phe Trp Asp	
180 185 190	
Arg Ile Val Pro Glu Gly Tyr Leu Thr Ser Cys Ser Phe Asp Tyr Leu	
195 200 205	
Ser Asp Asn Phe Asp Thr Arg Leu Phe Val Gly Thr Ile Phe Phe	
210 215 220	
Ser Phe Val Cys Pro Thr Leu Met Ile Leu Tyr Tyr Ser Gln Ile	
225 230 235 240	
Val Gly His Val Phe Ser His Glu Lys Ala Leu Arg Glu Gln Ala Lys	
245 250 255	
Lys Met Asn Val Glu Ser Leu Arg Ser Asn Val Asp Lys Ser Lys Glu	
260 265 270	
Thr Ala Glu Ile Arg Ile Ala Lys Ala Ala Ile Thr Ile Cys Phe Leu	
275 280 285	
Phe Phe Val Ser Trp Thr Pro Tyr Gly Val Met Ser Leu Ile Gly Ala	
290 295 300	
Phe Gly Asp Lys Ser Leu Leu Thr Gln Gly Ala Thr Met Ile Pro Ala	
305 310 315 320	
Cys Thr Cys Lys Leu Val Ala Cys Ile Asp Pro Phe Val Tyr Ala Ile	

325	330	335
Ser His Pro Arg Tyr Arg Leu Glu Leu Gln Lys Arg Cys Pro Trp Leu		
340	345	350
Gly Val Asn Glu Lys Ser Gly Glu Ile Ser Ser Ala Gln Ser Thr Thr		
355	360	365
Thr Gln Glu Gln Gln Gln Thr Thr Ala Ala		
370	375	

::210 : 9

::211 : 121

::212 : PRT

::213 : Homo sapiens

::400 : 9

Met Glu Leu Ala Ala Leu Cys Arg Trp Gly Leu Leu Leu Ala Leu Leu			
1	5	10	15
Pro Pro Gly Ala Ala Ser Thr Gln Val Cys Thr Gly Thr Asp Met Lys			
20	25	30	
Leu Arg Leu Pro Ala Ser Pro Glu Thr His Leu Asp Met Leu Arg His			
35	40	45	
Leu Tyr Gln Gly Cys Gln Val Val Gln Gly Asn Leu Glu Leu Thr Tyr			
50	55	60	
Leu Pro Thr Asn Ala Ser Leu Ser Phe Leu Gln Asp Ile Gln Glu Val			
65	70	75	80
Gln Gly Tyr Val Leu Ile Ala His Asn Gln Val Arg Gln Val Pro Leu			
85	90	95	
Gln Arg Leu Arg Ile Val Arg Gly Thr Gln Leu Phe Glu Asp Asn Tyr			
100	105	110	
Ala Leu Ala Val Leu Asp Asn Gly Asp Pro Leu Asn Asn Thr Thr Pro			
115	120	125	
Val Thr Gly Ala Ser Pro Gly Gly Leu Arg Glu Leu Gln Leu Arg Ser			
130	135	140	
Leu Thr Glu Ile Leu Lys Gly Gly Val Leu Ile Gln Arg Asn Pro Gln			
145	150	155	160
Leu Cys Tyr Gln Asp Thr Ile Leu Trp Lys Asp Ile Phe His Lys Asn			
165	170	175	
Asn Gln Leu Ala Leu Thr Leu Ile Asp Thr Asn Arg Ser Arg Ala			
180	185	190	

::210 : 10

::211 : 1277

::212 : DNA

::213 : Homo sapiens

::400 : 10

gtcatctgtt atttttaaac ttcccttgaa taatataatgt aatctacttc taataagttt	60
ttcttattta gcatttttgtt ctaaactaat ttataattat ttgccttat ttctccatgt	120
ttaacttgcgtt taaaagctca gcactgggtt ttccaggccat ggcttctcca tttaaggct	180
attttaatccatttattttt ctggaaataa tccttaaata atttatttag gaaggctgtc	240
tgtgggtgg tatttctgtt gcagttgttg tttctgtcc tgcttggta catatttcta	300
tttgcatttgcactttaacttgcgtt agttagataa tgcttaattca aaatttgcgtt	360
gtatattggcc tgggtttttt tgccattttag ggttgagtaa gatgccttgcgtt tggtttttgg	420
tttctgttag tcatttctgtt ttcattttgtt tttagctttt gcctttggaa tttaaaatgt	480
tcaaaatgtt tttgttgcgtt gagaatcgat ttccataact tttgttgcgtt tacactaaac	540

agtttgagtt	tcttagatgtat	gcgcatttta	attcatacga	ggaaatatact	tcttagtata	600
tttctgcctg	atttaattcta	tgttgtctc	ttagggacat	ctattaattt	tataatgtct	660
ccctttttc	agacttctgt	tccagaataat	tcgtttcat	gaatgtatac	cttggctata	720
gttaggaatga	aaatataaaaa	gcgttagctt	gtgtctgccc	tccttggta	tgcgttctt	780
acagacatcc	tccccacatc	ccatcccccc	acccagctc	agtgtttactc	tccacatctt	840
ggtttgtggaa	attggcagggg	ttaggtggct	actcactccc	aatccacatc	cacaataaat	900
cactttttat	tatcttatca	aaatgttag	aatgtctttt	tattttat	tgttgtgtcg	960
gagggtttgtt	ttttttttct	aattttttta	ttttctaggt	tttttgaggg	aatttcaaga	1020
ggggagattt	tttattttagg	ctttatctaa	ctgtatgtct	ggaaatctaa	ctactgtatt	1080
atatattttt	taatacatat	agacctacgt	aatgtgattt	aaactgtcaag	gaaagggtta	1140
aattttttcc	tcaagtgtgg	tccaaatctg	tagagaaaaag	aggaaatgt	tctttaaag	1200
aaagtttagt	gggttaggtat	acagtcatcg	ccgaggaagg	cttgcgttgg	gtgaaaagtt	1260
tgttttctcg	ctgtgt					1277

1210 • 11

2211, 356

1112 • PRT

• 113 • *Mus musculus*

300 · 11

Met Ala Lys Thr Ile Arg Arg Leu Ser Val Ala Phe Leu Thr Leu Ser
 1 5 10 15

Asp Arg Gly Pro His Tyr Lys Ile Leu Leu Pro Leu Pro His Lys Gly
21 25 30

Trp Thr Pro Gly Leu Thr His Asn Ala Ser Leu Tyr Cys Ala Ser Ile
35 40 45

Ile Leu Lys Asn Thr Met Gly Leu Ala Ile Leu Ile Phe Val Thr Val
50 55 60

Leu Leu Ile Ser Asp Ala Val Ser Val Glu Thr Gln Ala Tyr Phe Asn
65 70 75 80

Gly Thr Ala Tyr Leu Pro Cys Pro Phe Thr Lys Ala Glu Asn Ile Ser
 85 90 95

Leu Ser Gln Ser Val Val Phe Tyr Gln Asp Gln Gln Lys Ieu Val Ser
100 105 110

TYR GLU HIS TYR Leu GLY The Glu Lys Leu Asp Ser Val Asn Ala Lys
115 120 125

Arg Ser Asp Arg Asn Asn Tyr Ile Gly Arg Thr Ser Phe Asp Arg Asn Asn Tyr Ile Arg Ser 130 135 140
Asn Lys Val Asp Glu Asp Asn Met Glu Asn Lys Lys Asn Glu Asp Pro Ile Ser

lys lys Pro Pro Thr Glu Ser Ile Ile Leu Ser Ser Thr Ileu Thr Glu

lys lys pro pro 161 gln ser the the the the the the the the the
 165 170 175
 leu ser val the
 the the the the the the the the the the the the the the the the the

Asp Val Thr Gln Asp Ser Gly Ile Asp Leu Thr Cys Thr Ser Lys Gln

GLY His Pro Ile Pro Ile Ile Met Tyr Phe Leu Ile Thr Asn Ser Thr

Asp Glu Tyr Glu Asp Asn Met Gln Ile Ser Gln Asp Asn Val Thr Glu

225 230 235 240
 Leu Phe Ser Ile Ser Asn Ser Leu Ser Leu Ser Phe Pro Asp Gly Val

245 250 255
Trp His Met Thr Val Val Cys Val Leu Glu Thr Glu Ser Met Lys Ile

260 265 270

Ser Ser Lys Pro Leu Asn Phe Thr Gln Glu Phe Pro Ser Pro Gln Thr
 275 280 35
 Tyr Trp Lys Glu Ile Thr Ala Ser Val Thr Val Ala Leu Leu Leu Val
 290 295 300
 Met Leu Leu Ile Ile Val Cys His Lys Lys Pro Asn Gln Pro Ser Arg
 305 310 315 320
 Pro Ser Asn Thr Ala Ser Lys Leu Glu Arg Asp Ser Asn Ala Asp Arg
 325 330 335
 Glu Thr Ile Asn Leu Lys Glu Leu Glu Pro Gln Ile Ala Ser Ala Lys
 340 345 350
 Pro Asn Ala Glu
 355

3210: 12

3211: 356

3212: PRT

3213: Mus musculus

3400: 12

Met Ala Lys Thr Ile Arg Arg Leu Ser Val Ala Phe Leu Thr Leu Ser
 1 5 10 15
 Asp Arg Gly Pro His Tyr Lys Ile Leu Leu Pro Leu Pro His Lys Gly
 20 25 30
 Trp Thr Pro Gly Leu Thr His Asn Ala Ser Leu Tyr Cys Ala Ser Ile
 35 40 45
 Ile Leu Lys Asn Thr Met Gly Leu Ala Ile Leu Ile Phe Val Thr Val
 50 55 60
 Leu Leu Ile Ser Asp Ala Val Ser Val Glu Thr Gln Ala Tyr Phe Asn
 65 70 75 80
 Gly Thr Ala Tyr Leu Pro Cys Pro Phe Thr Lys Ala Gln Asn Ile Ser
 85 90 95
 Leu Ser Glu Leu Val Val Phe Trp Gln Asp Gln Gln Cys Leu Val Leu
 100 105 110
 Tyr Glu His Tyr Leu Gly Thr Glu Lys Leu Asp Ser Val Asn Ala Cys
 115 120 125
 Tyr Leu Gly Arg Thr Ser Phe Asp Arg Asn Asn Trp Thr Leu Arg Leu
 130 135 140
 His Asn Val Gln Ile Lys Asp Met Gly Ser Tyr Asp Cys Phe Ile Gln
 145 150 155 160
 Lys Lys Pro Pro Thr Gly Ser Ile Ile Leu Gln Gln Thr Leu Thr Glu
 165 170 175
 Leu Ser Val Ile Ala Asn Phe Ser Glu Pro Glu Ile Lys Leu Ala Gln
 180 185 190
 Asn Val Thr Gly Asn Ser Gly Ile Asn Leu Thr Cys Thr Ser Lys Gln
 195 200 205
 Gly His Pro Lys Pro Lys Met Tyr Phe Leu Ile Thr Asn Ser Thr
 210 215 220
 Asn Glu Tyr Gly Asp Asn Met Gln Ile Ser Gln Asp Asn Val Thr Glu
 225 230 235 240
 Leu Phe Ser Ile Ser Asn Ser Leu Ser Leu Ser Phe Pro Asp Gly Val
 245 250 255
 Trp His Met Thr Val Val Cys Val Leu Glu Thr Glu Ser Met Lys Ile
 260 265 270
 Ser Ser Lys Pro Leu Asn Phe Thr Gln Glu Phe Pro Ser Pro Gln Thr

275	280	285
Tyr Trp Lys Glu Ile Thr Ala Ser Val Thr Val Ala Leu Leu Val		
290	295	300
Met Leu Ile Ile Val Cys His Lys Lys Pro Asn Gln Pro Ser Arg		
305	310	315
Pro Ser Asn Thr Ala Ser Lys Leu Glu Arg Asp Ser Asn Ala Asp Arg		
325	330	335
Glu Thr Ile Asn Leu Lys Glu Leu Glu Pro Gln Ile Ala Ser Ala Lys		
340	345	350
Pro Asn Ala Glu		
355		

•M10 : M3
 •M11 : 309
 •M12 : PRT
 •M13 : Mus musculus

•M400 : M3

Met Asp Pro Arg Cys Thr Met Gly Leu Ala Ile Leu Ile Phe Val Thr			
1	5	10	15
Val Leu Leu Ile Ser Asp Ala Val Ser Val Glu Thr Gln Ala Tyr Phe			
20	25	30	
Asn Gly Thr Ala Tyr Leu Pro Cys Pro Phe Thr Lys Ala Gln Asn Ile			
35	40	45	
Ser Leu Ser Gln Leu Val Val Phe Trp Gln Asp Gln Gln Lys Leu Val			
50	55	60	
Leu Tyr Glu His Tyr Leu Gly Thr Glu Lys Leu Asp Ser Val Asn Ala			
65	70	75	80
Lys Tyr Leu Gly Arg Thr Ser Phe Asp Arg Asn Asn Trp Thr Leu Arg			
85	90	95	
Leu His Asn Val Gln Ile Lys Asp Met Gly Ser Tyr Asp Cys Phe Ile			
100	105	110	
Gln Lys Lys Pro Pro Thr Gly Ser Ile Ile Leu Gln Gln Thr Leu Thr			
115	120	125	
Glu Leu Ser Val Ile Ala Asn Phe Ser Glu Pro Glu Ile Lys Leu Ala			
130	135	140	
Gln Asn Val Thr Gly Asn Ser Gly Ile Asn Leu Thr Cys Thr Ser Lys			
145	150	155	160
Gln Gly His Pro Lys Pro Lys Lys Met Tyr Phe Leu Ile Thr Asn Ser			
165	170	175	
Thr Asn Glu Tyr Gly Asp Asn Met Gln Ile Ser Gln Asp Asn Val Thr			
180	185	190	
Glu Leu Phe Ser Ile Ser Asn Ser Leu Ser Gln Phe Asp Gly			
195	200	205	
Val Trp His Met Thr Val Val Cys Val Leu Glu Thr Glu Ser Met Lys			
210	215	220	
Ile Ser Ser Lys Pro Leu Asn Phe Thr Gln Glu Phe Phe Ser Pro Gln			
225	230	235	240
Thr Tyr Trp Lys Glu Ile Thr Ala Ser Val Thr Val Ala Leu Leu Leu			
245	250	255	
Val Met Leu Leu Ile Ile Val Cys His Lys Lys Pro Asn Gln Pro Ser			
260	265	270	
Arg Phe Ser Asn Thr Ala Ser Lys Leu Glu Arg Asp Ser Asn Ala Asp			
275	280	285	

Arg Glu Thr Ile Asn Leu Lys Glu Leu Glu Pro Gln Ile Ala Ser Ala
 300 295 300

Lys Pro Asn Ala Glu
 305

4210 · 14
 4211 · 314
 4212 · PRT
 4213 · Mus musculus

4400 · 14
 Met Tyr Val Ile Lys Thr Cys Ala Thr Cys Thr Met Gly Leu Ala Ile
 1 5 10 15
 Leu Ile Phe Val Thr Val Leu Leu Ile Ser Asp Ala Val Ser Val Glu
 20 25 30
 Thr Gln Ala Tyr Phe Asn Gly Thr Ala Tyr Leu Pro Cys Pro Phe Thr
 35 40 45
 Lys Ala Gln Asn Ile Ser Leu Ser Glu Leu Val Val Phe Trp Gln Asp
 50 55 60
 Gln Gln Lys Leu Val Leu Tyr Glu His Tyr Leu Gly Thr Glu Lys Leu
 65 70 75 80
 Asp Ser Val Asn Ala Lys Tyr Leu Gly Arg Thr Ser Phe Asp Arg Asn
 85 90 95
 Asn Thr Thr Leu Arg Leu His Asn Val Gln Ile Lys Asp Met Gly Ser
 100 105 110
 Tyr Asp Cys Phe Ile Gln Lys Lys Pro Pro Thr Gly Ser Ile Ile Leu
 115 120 125
 Gln Gln Thr Leu Thr Glu Leu Ser Val Ile Ala Asn Phe Ser Glu Pro
 130 135 140
 Glu Ile Lys Leu Ala Gln Asn Val Thr Gly Asn Ser Gly Ile Asn Leu
 145 150 155 160
 Thr Lys Thr Ser Lys Gln Gly His Pro Lys Pro Lys Lys Met Tyr Phe
 165 170 175
 Leu Ile Thr Asn Ser Thr Asn Glu Tyr Gly Asp Asn Met Gln Ile Ser
 180 185 190
 Gln Asp Asn Val Thr Glu Leu Phe Ser Ile Ser Asn Ser Leu Ser Leu
 195 200 205
 Ser Ile Pro Asp Gly Val Trp His Met Thr Val Val Cys Val Leu Glu
 210 215 220
 Thr Glu Ser Met Lys Ile Ser Ser Lys Pro Leu Asn Phe Thr Gln Glu
 225 230 235 240
 Phe Pro Ser Pro Gln Thr Tyr Trp Lys Glu Ile Thr Ala Ser Val Thr
 245 250 255
 Val Ala Leu Leu Leu Val Met Leu Leu Ile Ile Val Val Lys His Lys Lys
 260 265 270
 Pro Asn Gln Pro Ser Arg Pro Ser Asn Thr Ala Ser Lys Leu Glu Arg
 275 280 285
 Asp Ser Asn Ala Asp Arg Glu Thr Ile Asn Leu Lys Glu Leu Glu Pro
 290 295 300
 Gln Ile Ala Ser Ala Lys Pro Asn Ala Glu
 305 310

4210 · 15
 4211 · 303

•212• PRT

•213• Mus musculus

•400• 15

Met Gly Leu Ala Ile Leu Ile Phe Val Thr Val Leu Leu Ile Ser Asp
 1 5 10 15
 Ala Val Ser Val Glu Thr Gln Ala Tyr Phe Asn Gly Thr Ala Tyr Leu
 20 25 30
 Pro Cys Pro Phe Thr Lys Ala Gln Asn Ile Ser Leu Ser Glu Leu Val
 35 40 45
 Val Phe Trp Gln Asp Gln Gln Lys Leu Val Leu Tyr Glu His Tyr Leu
 50 55 60
 Gly Thr Glu Lys Leu Asp Ser Val Asn Ala Lys Tyr Leu Gly Arg Thr
 65 70 75 80
 Ser Phe Asp Arg Asn Asn Trp Thr Leu Arg Leu His Asn Val Gln Ile
 85 90 95
 Lys Asp Met Gly Ser Tyr Asp Cys Phe Ile Gln Lys Lys Pro Pro Thr
 100 105 110
 Gly Ser Ile Ile Leu Gln Gln Thr Leu Thr Glu Leu Ser Val Ile Ala
 115 120 125
 Asn Phe Ser Glu Pro Glu Ile Lys Leu Ala Gln Asn Val Thr Gly Asn
 130 135 140
 Ser Gly Ile Asn Leu Thr Cys Thr Ser Lys Gln Gly His Pro Lys Pro
 145 150 155 160
 Lys Lys Met Tyr Phe Leu Ile Thr Asn Ser Thr Asn Glu Tyr Gly Asp
 165 170 175
 Asn Met Gln Ile Ser Gln Asp Asn Val Thr Glu Leu Phe Ser Ile Ser
 180 185 190
 Asn Ser Leu Ser Leu Ser Phe Pro Asp Gly Val Trp His Met Thr Val
 195 200 205
 Val Cys Val Leu Glu Thr Glu Ser Met Lys Ile Ser Ser Lys Pro Leu
 210 215 220
 Asn Phe Thr Gln Glu Phe Pro Ser Pro Gln Thr Tyr Trp Lys Glu Ile
 225 230 235 240
 Thr Ala Ser Val Thr Val Ala Leu Leu Leu Val Met Leu Leu Ile Ile
 245 250 255
 Val Cys His Lys Lys Pro Asn Gln Pro Ser Arg Pro Ser Asn Thr Ala
 260 265 270
 Ser Lys Leu Glu Arg Asp Ser Asn Ala Asp Arg Glu Thr Ile Asn Leu
 275 280 285
 Lys Glu Leu Glu Pro Gln Ile Ala Ser Ala Lys Pro Asn Ala Glu
 290 295 300

•T10• 16

•T11• 356

•T12• FRT

•T13• Mus musculus

•400• 16

Met Ala Lys Thr Ile Arg Arg Leu Ser Val Ala Phe Leu Thr Leu Ser
 1 5 10 15
 Asp Arg Gly Pro His Tyr Lys Ile Leu Leu Pro Leu Pro His Lys Gly
 20 25 30
 Trp Thr Pro Gly Leu Thr His Asn Ala Ser Leu Tyr Cys Ala Ser Ile

35	40	45	
Ile Leu Lys Asn Thr Met Gly Leu Ala Ile Leu Ile Phe Val Thr Val			
50	55	60	
Leu Leu Ile Ser Asp Ala Val Ser Val Glu Thr Gin Ala Tyr Phe Asn			
65	70	75	80
Gly Thr Ala Tyr Leu Pro Cys Pro Phe Thr Lys Ala Gln Asn Ile Ser			
85	90	95	
Leu Ser Glu Leu Val Val Phe Trp Gln Asp Gln Gln Lys Leu Val Leu			
100	105	110	
Tyr Glu His Tyr Leu Gly Thr Glu Lys Leu Asp Ser Val Asn Ala Lys			
115	120	125	
Tyr Leu Gly Arg Thr Ser Phe Asp Arg Asn Asn Trp Thr Leu Arg Leu			
130	135	140	
His Asn Val Gin Ile Lys Asp Met Gly Ser Tyr Asp Cys Phe Ile Gln			
145	150	155	160
Lys Lys Pro Pro Thr Gly Ser Ile Ile Leu Gln Gln Thr Leu Thr Glu			
165	170	175	
Leu Ser Val Ile Ala Asn Phe Ser Glu Pro Glu Ile Lys Leu Ala Gln			
180	185	190	
Asn Val Thr Gly Asn Ser Gly Ile Asn Leu Thr Cys Thr Ser Lys Gin			
195	200	205	
Gly His Pro Lys Pro Lys Lys Met Tyr Phe Leu Ile Thr Asn Ser Thr			
210	215	220	
Asn Glu Tyr Gly Asp Asn Met Gln Ile Ser Gln Asp Asn Val Thr Glu			
225	230	235	240
Leu Phe Ser Ile Ser Asn Ser Leu Ser Leu Ser Phe Pro Asp Gly Val			
245	250	255	
Trp His Met Thr Val Val Cys Val Leu Glu Thr Glu Ser Met Lys Ile			
260	265	270	
Ser Ser Lys Pro Leu Asn Phe Thr Gln Glu Phe Pro Ser Pro Gln Thr			
275	280	285	
Tyr Trp Lys Glu Ile Thr Ala Ser Val Thr Val Ala Leu Leu Val			
290	295	300	
Met Leu Leu Ile Ile Val Cys His Lys Lys Pro Asn Gln Pro Ser Arg			
305	310	315	320
Pro Ser Asn Thr Ala Ser Lys Leu Glu Arg Asp Ser Asn Ala Asp Arg			
325	330	335	
Glu Thr Ile Asn Leu Lys Glu Leu Glu Pro Gln Ile Ala Ser Ala Lys			
340	345	350	
Pro Asn Ala Glu			
355			

•110• 17

•111• 356

•112• PRT

•113• Mus musculus

•1400• 17

Met Ala Lys Thr Ile Arg Arg Leu Ser Val Ala Phe Leu Thr Leu Ser			
1	5	10	15
Asp Arg Gly Pro His Tyr Lys Ile Leu Leu Pro Leu Pro His Lys Gly			
20	25	30	
Trp Thr Pro Gly Leu Thr His Asn Ala Ser Leu Tyr Cys Ala Ser Ile			
35	40	45	

Ile Leu Lys Asn Thr Met Gly Leu Ala Ile Leu Ile Phe Val Thr Val
 50 55 60
 Leu Leu Ile Ser Asp Ala Val Ser Val Glu Thr Gln Ala Tyr Phe Asn
 65 70 75 80
 Gly Thr Ala Tyr Leu Pro Cys Pro Phe Thr Lys Ala Gln Asn Ile Ser
 85 90 95
 Leu Ser Glu Leu Val Val Phe Trp Gln Asp Gln Gln Lys Leu Val Leu
 100 105 110
 Tyr Glu His Tyr Leu Gly Thr Glu Lys Leu Asp Ser Val Asn Ala Lys
 115 120 125
 Tyr Leu Gly Arg Thr Ser Phe Asp Arg Asn Asn Trp Thr Leu Arg Leu
 130 135 140
 His Asn Val Gln Ile Lys Asp Met Gly Ser Tyr Asp Cys Phe Ile Gln
 145 150 155 160
 Lys Lys Pro Pro Thr Gly Ser Ile Ile Leu Gln Gln Thr Leu Thr Glu
 165 170 175
 Leu Ser Val Ile Ala Asn Phe Ser Glu Pro Glu Ile Lys Leu Ala Gln
 180 185 190
 Asn Val Thr Gly Asn Ser Gly Ile Asn Leu Thr Cys Thr Ser Lys Gln
 195 200 205
 Gly His Pro Lys Pro Lys Lys Met Tyr Phe Leu Ile Thr Asn Ser Thr
 210 215 220
 Asn Glu Tyr Gly Asp Asn Met Gln Ile Ser Gln Asp Asn Val Thr Glu
 225 230 235 240
 Leu Phe Ser Ile Ser Asn Ser Leu Ser Leu Ser Phe Pro Asp Gly Val
 245 250 255 260
 Trp His Met Thr Val Val Cys Val Leu Glu Thr Glu Ser Met Lys Ile
 260 265 270
 Ser Ser Lys Pro Leu Asn Phe Thr Gln Glu Phe Pro Ser Pro Gln Thr
 275 280 285
 Tyr Trp Lys Glu Ile Thr Ala Ser Val Thr Val Ala Leu Leu Leu Val
 290 295 300
 Met Leu Leu Ile Ile Val Cys His Lys Lys Pro Asn Gln Pro Ser Arg
 305 310 315 320
 Pro Ser Asn Thr Ala Ser Lys Leu Glu Arg Asp Ser Asn Ala Asp Arg
 325 330 335
 Glu Thr Ile Asn Leu Lys Glu Leu Glu Pro Gln Ile Ala Ser Ala Lys
 340 345 350
 Pro Asn Ala Glu
 355

4110. 18

4211. 309

4212. FRT

4213. *Mus musculus*

4400. 18

Met Asp Pro Arg Cys Thr Met Gly Leu Ala Ile Leu Ile Phe Val Thr
 1 5 10 15
 Val Leu Leu Ile Ser Asp Ala Val Ser Val Glu Thr Gln Ala Tyr Phe
 20 25 30
 Asn Gly Thr Ala Tyr Leu Pro Cys Pro Phe Thr Lys Ala Gln Asn Ile
 35 40 45
 Ser Leu Ser Glu Leu Val Val Phe Trp Gln Asp Gln Gln Lys Leu Val

50	55	60	
Leu Tyr Glu His Tyr Leu Gly Thr Glu Lys Leu Asp Ser Val Asn Ala			
65	70	75	80
Lys Tyr Leu Gly Arg Thr Ser Phe Asp Arg Asn Asn Trp Thr Leu Arg			
85	90	95	
Leu His Asn Val Gln Ile Lys Asp Met Gly Ser Tyr Asp Cys Phe Ile			
100	105	110	
Gln Lys Lys Pro Pro Thr Gly Ser Ile Ile Leu Gln Gln Thr Leu Thr			
115	120	125	
Glu Leu Ser Val Ile Ala Asn Phe Ser Glu Pro Glu Ile Lys Leu Ala			
130	135	140	
Gln Asn Val Thr Gly Asn Ser Gly Ile Asn Leu Thr Cys Thr Ser Lys			
145	150	155	160
Gln Gly His Pro Lys Pro Lys Lys Met Tyr Phe Leu Ile Thr Asn Ser			
165	170	175	
Thr Asn Glu Tyr Gly Asp Asn Met Gln Ile Ser Gln Asp Asn Val Thr			
180	185	190	
Glu Leu Phe Ser Ile Ser Asn Ser Leu Ser Leu Ser Phe Pro Asp Gly			
195	200	205	
Val Trp His Met Thr Val Val Cys Val Leu Glu Thr Glu Ser Met Lys			
210	215	220	
Ile Ser Ser Lys Pro Leu Asn Phe Thr Gln Glu Phe Pro Ser Pro Gln			
225	230	235	240
Thr Tyr Trp Lys Glu Ile Thr Ala Ser Val Thr Val Ala Leu Leu Leu			
245	250	255	
Val Met Leu Leu Ile Ile Val Cys His Lys Lys Pro Asn Gln Pro Ser			
260	265	270	
Arg Pro Ser Asn Thr Ala Ser Lys Leu Glu Arg Asp Ser Asn Ala Asp			
275	280	285	
Arg Glu Thr Ile Asn Leu Lys Glu Leu Glu Pro Gln Ile Ala Ser Ala			
290	295	300	
\\ Lys Pro Asn Ala Glu			
305			

•#10 • 19
 •#11 314
 •#12 • PRT
 •#13 • Mus musculus

•#400 • 19			
Met Tyr Val Ile Lys Thr Cys Ala Thr Cys Thr Met Gly Leu Ala Ile			
1	5	10	15
Leu Ile Phe Val Thr Val Leu Leu Ile Ser Asp Ala Val Ser Val Glu			
20	25	30	
Thr Gln Ala Tyr Phe Asn Gly Thr Ala Tyr Leu Pro Cys Pro Phe Thr			
35	40	45	
Lys Ala Gln Asn Ile Ser Leu Ser Glu Leu Val Val Phe Trp Gln Asp			
50	55	60	
Gln Gln Lys Leu Val Leu Tyr Glu His Tyr Leu Gly Thr Glu Lys Leu			
65	70	75	80
Asp Ser Val Asn Ala Lys Tyr Leu Gly Arg Thr Ser Phe Asp Arg Asn			
85	90	95	
Asn Trp Thr Leu Arg Leu His Asn Val Gln Ile Lys Asp Met Gly Ser			
100	105	110	

Tyr Asp Cys Phe Ile Gln Lys Lys Pro Pro Thr Gly Ser Ile Ile Leu
 115 1.0 1.5
 Gln Glu Thr Leu Thr Glu Leu Ser Val Ile Ala Asn Ile Ser Glu Pro
 130 135 140
 Glu Ile Lys Leu Ala Gln Asn Val Thr Gly Asn Ser Gly Ile Asn Leu
 145 150 155 160
 Thr Cys Thr Ser Lys Gln Gly His Pro Lys Pro Lys Lys Met Tyr Phe
 165 170 175
 Leu Ile Thr Asn Ser Thr Asn Glu Tyr Gly Asp Asn Met Gln Ile Ser
 180 185 190
 Gln Asp Asn Val Thr Glu Leu Phe Ser Ile Ser Asn Ser Leu Ser Leu
 195 200 205
 Ser Phe Pro Asp Gly Val Trp His Met Thr Val Val Lys Val Leu Glu
 210 215 220
 Thr Glu Ser Met Lys Ile Ser Ser Lys Pro Leu Asn Phe Thr Gln Glu
 225 230 235 240
 Phe Pro Ser Pro Gln Thr Tyr Trp Lys Glu Ile Thr Ala Ser Val Thr
 245 250 255
 Val Ala Leu Leu Leu Val Met Leu Leu Ile Ile Val Lys His Lys Lys
 260 265 270
 Pro Asn Gln Pro Ser Arg Pro Ser Asn Thr Ala Ser Lys Leu Glu Arg
 275 280 285
 Asp Ser Asn Ala Asp Arg Glu Thr Ile Asn Leu Lys Glu Leu Glu Pro
 290 295 300
 Gln Ile Ala Ser Ala Lys Pro Asn Ala Glu
 305 310

310 . . 0

311 . . 03

312 . . PRT

313 . . Mus musculus

3400 . . 0

Met Gly Leu Ala Ile Leu Ile Phe Val Thr Val Leu Leu Ile Ser Asp
 1 5 10 15
 Ala Val Ser Val Glu Thr Gln Ala Tyr Phe Asn Gly Thr Ala Tyr Leu
 20 25 30 35
 Pro Cys Pro Phe Thr Lys Ala Gln Asn Ile Ser Leu Ser Glu Leu Val
 35 40 45 50
 Val Phe Trp Gln Asp Gln Gln Lys Leu Val Leu Tyr Glu His Tyr Leu
 50 55 60 65
 Gly Thr Glu Lys Leu Asp Ser Val Asn Ala Lys Tyr Leu Gly Arg Thr
 65 70 75 80
 Ser Phe Asp Arg Asn Asn Trp Thr Leu Arg Leu His Asn Val Gln Ile
 85 90 95 100
 Lys Asp Met Gly Ser Tyr Asp Cys Phe Ile Gln Lys Lys Pro Pro Thr
 100 105 110 115
 Gly Ser Ile Ile Leu Gln Gln Thr Leu Thr Glu Leu Ser Val Ile Ala
 115 120 125 130
 Asn Phe Ser Glu Pro Glu Ile Lys Leu Ala Gln Asn Val Thr Gly Asn
 130 135 140 145
 Ser Gly Ile Asn Leu Thr Cys Thr Ser Lys Gln Gly His Pro Lys Pro
 145 150 155 160
 Lys Lys Met Tyr Phe Leu Ile Thr Asn Ser Thr Asn Glu Tyr Gly Asp

	165	170	175												
Asn	Met	Gln	Ile	Ser	Gln	Asp	Asn	Val	Thr	Glu	Leu	Phe	Ser	Ile	Ser
	180								185						190
Asn	Ser	Leu	Ser	Leu	Ser	Phe	Pro	Asp	Gly	Val	Trp	His	Met	Thr	Val
		195					200							205	
Val	Cys	Val	Leu	Glu	Thr	Glu	Ser	Met	Lys	Ile	Ser	Ser	Lys	Pro	Leu
							215						220		
Asn	Phe	Thr	Gln	Glu	Phe	Pro	Ser	Pro	Gln	Thr	Tyr	Trp	Lys	Glu	Ile
		225			230					235					240
Thr	Ala	Ser	Val	Thr	Val	Ala	Leu	Leu	Leu	Val	Met	Leu	Leu	Ile	Ile
					245				250						255
Val	Cys	His	Lys	Lys	Pro	Asn	Gln	Pro	Ser	Arg	Pro	Ser	Asn	Thr	Ala
					260			265						270	
Ser	Lys	Leu	Glu	Arg	Asp	Ser	Asn	Ala	Asp	Arg	Glu	Thr	Ile	Asn	Leu
							275		280				285		
Lys	Glu	Leu	Glu	Pro	Gln	Ile	Ala	Ser	Ala	Lys	Pro	Asn	Ala	Glu	
								290		295				300	

• 210 : 21
• 211 : 1424
• 212 : DNA
• 213 : *Homo sapiens*

•#100: 27
•#110: 31.3
•#120: P.H.T
•#130: Homo sapiens

M400-32

Met Gly Leu Ser Asn Ile Leu Phe Val Met Ala Phe Leu Leu Ser Gly
 1 5 10 15
 Ala Ala Pro Leu Lys Ile Gln Ala Tyr Phe Asn Glu Thr Ala Asp Leu
 20 25 30
 Pro Cys Gln Phe Ala Asn Ser Gln Asn Ser Leu Ser Glu Leu Val
 35 40 45
 Val Phe Trp Gln Asp Gln Glu Asn Leu Val Leu Asn Glu Val Tyr Leu
 50 55 60
 Gly Lys Glu Lys Phe Asp Ser Val His Ser Lys Tyr Met Gly Arg Thr
 65 70 75 80
 Ser Phe Asp Ser Asp Ser Trp Thr Leu Arg Leu His Asn Leu Gln Ile
 95 100 105 110
 Lys Asp Lys Gly Leu Tyr Gln Cys Ile Ile His His Lys Lys Pro Thr
 115 120 125
 Gly Met Ile Arg Ile His Gln Met Asn Ser Glu Leu Ser Val Leu Ala
 135 140
 Asn Phe Ser Gln Pro Glu Ile Val Pro Ile Ser Asn Ile Thr Glu Asn
 145 150 155 160
 Val Tyr Ile Asn Leu Thr Cys Ser Ser Ile His Gly Tyr Pro Glu Pro
 165 170 175
 Lys Lys Met Ser Val Leu Leu Arg Thr Lys Asn Ser Thr Ile Glu Tyr
 185 190 195
 Asp Gly Ile Met Gln Lys Ser Gln Asp Asn Val Thr Glu Leu Tyr Asp
 205 210 215 220
 Val Ser Ile Ser Leu Ser Val Ser Phe Pro Asp Val Thr Ser Asn Met
 225 230 235 240
 Thr Ile Phe Cys Ile Leu Glu Thr Asp Lys Thr Arg Leu Leu Ser Ser
 245 250 255
 Pro Phe Ser Ile Glu Leu Glu Asp Pro Gln Pro Pro Pro Asp His Ile
 265 270 275 280
 Pro Trp Ile Thr Ala Val Leu Pro Thr Val Ile Ile Cys Val Met Val
 285 290 295 300
 Phe Lys Leu Ile Leu Trp Lys Trp Lys Lys Lys Arg Pro Arg Asn
 305 310 315 320
 Ser Tyr Lys Cys Gly Thr Asn Thr Met Glu Arg Glu Glu Ser Glu Gln
 325 330 335
 Thr Lys Lys Arg Glu Lys Ile His Ile Pro Glu Arg Ser Asp Glu Ala
 340 345 350
 Gln Arg Val Phe Lys Ser Ser Lys Thr Ser Ser Cys Asp Lys Ser Asp
 355 360 365
 Thr Cys Phe

M10-13

M11-1183

M212-DNA

M213-Mus musculus

M400-33

ggagcaagca gacgcgttaag agggctctt gtaggcagca cggacttgaa caaccagact
 60
 cctgttagacg tggccagaa ctacggaag caccacatgg ggaccccaaga tgcaccatgg
 120
 gcttggaaat ccttatcttt gtyacagtct tgctgatctc agatgtgtt tccgtggaga
 180
 cgcaagatca tttcaatggg actgcatactc tgccgtgcc atttacaaag gctcaaaaca
 240

taaggctgag tggactggta gtatTTggc aggaccagca aaagttgggt ctgtacgagc	300
actatTTggc caagagaaaa cttgtatagtg tgaatggca gtacgtggc cgacacgat	360
ttgacaggaa caactgact ctggacttc acaatgtca gatcaaggac atgggttgt	400
atgattgttt tataaaaaaa aagccacccaa caggatcaat tatactccaa cagacattaa	440
cagaacatgt agtgatcgcc aacttcagtg aacatgtaaat aaaaatgtgt cagaatgtaa	540
caggaaatcc tggcataaaaat ttgtacgtca cgttataagca aqgtccacccaa aacatcaaga	600
agatgtatcc ttgtatcaact aatcaacta atgagttatgg tggatataatc cagatataac	640
aagataatgt caaaaaactg ttcaatgtatct ccacacgtt ctttttttca ttccggatg	700
gtgtgtggca tatggccgtt gtgtgtgttc tggaaatggg gtcataatgtaaatccaa	740
aacatccaa ttgtatccaa gagtttccat ctatccaaac gtatggaaag gagatataacg	800
tttcgttac tggggccctt ctatgttgc tgcgtgtatc tattgtatgt cacaagaacg	900
ccatccatggcc tagcaggccc agcaacacag ctatcaatgt aqagggggat agtaacatgt	940
acagagagac tatcaatgt aqgaaatgt aaccccaat tgcgttgc aaaccatgt	1010
caagatgtaaag gcaatgtggag ctgtggaaa gagttaaaaaa tgcgttgc tggaaatgt aqgtgtaaat	1030
atgtgtgtgt ttgtatcaatgt tcaatgtatct tgcgttgc aqgtgtaaat	1140
atataaagaa caaaaatcacac aacatgtaaaa aaaaaaaa aaaa	1180

1210 - 24

1211 - 309

1212 - FRT

1213 - *Mis musculus*

1400 - 14

Met Asp Pro Arg Cys Thr Met Gly Leu Ala Ile Leu Ile Phe Val Thr				
1	10	15		
Val Leu Leu Ile Ser Asp Ala Val Ser Val Glu Thr Gln Ala Tyr Phe	10	25	30	
Asn Glu Thr Ala Tyr Leu Pro Cys Pro Phe Thr Lys Ala Gln Asn Ile	35	40	45	
Ser Leu Ser Glu Leu Val Val Phe Trp Gln Asp Gln Gln Lys Leu Val	50	55	60	
Leu Tyr Glu His Tyr Leu Gly Thr Glu Lys Leu Asp Ser Val Asn Ala	65	70	75	80
Lys Tyr Leu Gly Arg Thr Ser Phe Asp Arg Asn Asn Trp Thr Leu Arg	85	90	95	
Leu His Asn Val Gln Ile Lys Asp Met Gly Ser Tyr Asp Cys Phe Ile	100	105	110	
Gln Lys Lys Pro Pro Thr Gly Ser Ile Ile Leu Gln Gln Thr Leu Thr	115	120	125	
Glu Leu Ser Val Ile Ala Asn Phe Ser Glu Pro Glu Ile Lys Leu Ala	130	135	140	
Gln Asn Val Thr Gly Asn Ser Gly Ile Asn Leu Thr Cys Thr Ser Lys	145	150	155	160
Gln Gly His Pro Lys Pro Lys Lys Met Tyr Phe Leu Ile Thr Asn Ser	165	170	175	
Thr Asn Glu Tyr Gly Asp Asn Met Gln Ile Ser Gln Asp Asn Val Thr	180	185	190	
Glu Leu Phe Ser Ile Ser Asn Ser Leu Ser Leu Ser Phe Pro Asp Gly	195	200	205	
Val Trp His Met Thr Val Val Cys Val Leu Glu Thr Glu Ser Met Lys	210	215	220	
Ile Ser Ser Lys Pro Leu Asn Phe Thr Gln Glu Phe Pro Ser Pro Gln	225	230	235	240
Thr Tyr Trp Lys Glu Ile Thr Ala Ser Val Thr Val Ala Leu Leu Leu				

245	250	255
Val Met Leu Leu Ile Ile Val Cys His Lys Lys Pro Asn Gln Pro Ser		
260	265	270
Arg Pro Ser Asn Thr Ala Ser Lys Leu Glu Arg Asp Ser Asn Ala Asp		
275	280	285
Arg Glu Thr Ile Asn Leu Lys Glu Leu Glu Pro Gln Ile Ala Ser Ala		
290	295	300
Lys Pro Asn Ala Glu		
305		

0110 - 15
0111 - 1112
0212 - DNA
0213 - *Homo sapiens*

• 110: 16
• 111: 39
• 112: 5FT
• 113: Homo sapiens

Leu His Asn Leu Gln Ile Lys Asp Lys Gly Leu Tyr Gln Cys Ile Ile
 100 105 110
 His His Lys Lys Pro Thr Gly Met Ile Arg Ile His Gln Met Asn Ser
 115 120 125
 Glu Leu Ser Val Leu Ala Asn Phe Ser Gln Pro Glu Ile Val Pro Ile
 130 135 140
 Ser Asn Ile Thr Glu Asn Val Tyr Ile Asn Leu Thr Cys Ser Ser Ile
 145 150 155 160
 His Gly Tyr Pro Glu Pro Lys Lys Met Ser Val Leu Leu Arg Thr Lys
 165 170 175
 Asn Ser Thr Ile Glu Tyr Asp Gly Ile Met Gln Lys Ser Gln Asp Asn
 180 185 190
 Val Thr Glu Leu Tyr Asp Val Ser Ile Ser Leu Ser Val Ser Phe Pro
 195 200 205
 Asp Val Thr Ser Asn Met Thr Ile Phe Cys Ile Leu Glu Thr Asp Lys
 210 215 220
 Thr Arg Leu Leu Ser Ser Pro Phe Ser Ile Glu Leu Glu Asp Pro Gln
 225 230 235 240
 Pro Pro Pro Asp His Ile Pro Trp Ile Thr Ala Val Leu Pro Thr Val
 245 250 255
 Ile Ile Cys Val Met Val Phe Cys Leu Ile Leu Trp Lys Trp Lys Lys
 260 265 270
 Lys Lys Arg Pro Arg Asn Ser Tyr Lys Cys Gly Thr Asn Thr Met Glu
 275 280 285
 Arg Glu Glu Ser Glu Gln Thr Lys Lys Arg Glu Lys Ile His Ile Pro
 290 295 300
 Glu Arg Ser Asp Glu Ala Gln Arg Val Phe Lys Ser Ser Lys Thr Ser
 305 310 315 320
 Ser Cys Asp Lys Ser Asp Thr Cys Phe
 325